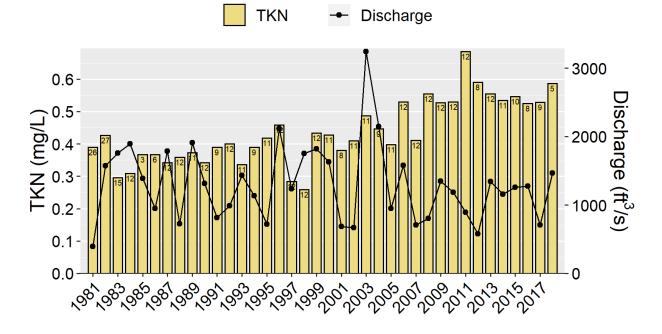
Appendix IV

Weight-Average Methodology

The reasoning behind this methodology is that the earlier years of monitoring collected multiple samples within a single day, multiple samples within a single month on an irregular basis. This differs from the current sampling regime which collects one sample per month. The intent of this method was to have a historical distribution of samples that matched the current sampling regime. We maintained this methodology throughout the report. The annual means for the water quality parameters presented in appendix III, appendix IV, chapter 2, chapter 4, and chapter 5 were calculated using monthly averages which were based on daily average values. First, the average daily values were calculated for each water quality parameter, then the monthly average values were calculated from the daily average values. These average monthly values were then used to calculate the yearly means. The five-year means and 2010 – 2018 means presented in Chapter 5 were calculated using a similar methodology using the yearly average values to calculate the five year means.

NOTTOWAY RIVER AT US 258 NEAR RIVERDALE VA Ambient Monitoring Station Water Quality Data with the Number of Samples Collected inside the Bar, Annual Weighted Means, and Annual Median values with the Nottoway River Discharge (USGS Gage: 02047000).

D0000050 Yearly Average Values



D0000050
Yearly Average Values

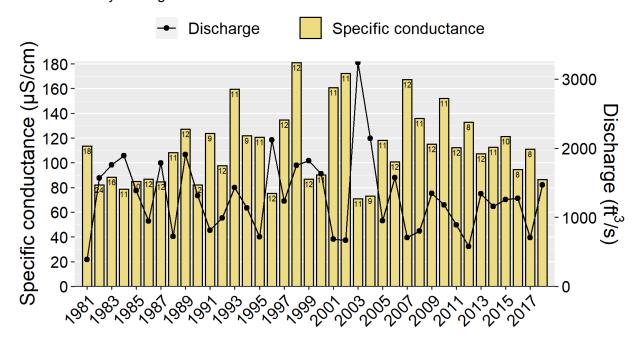
Discharge

Temperature

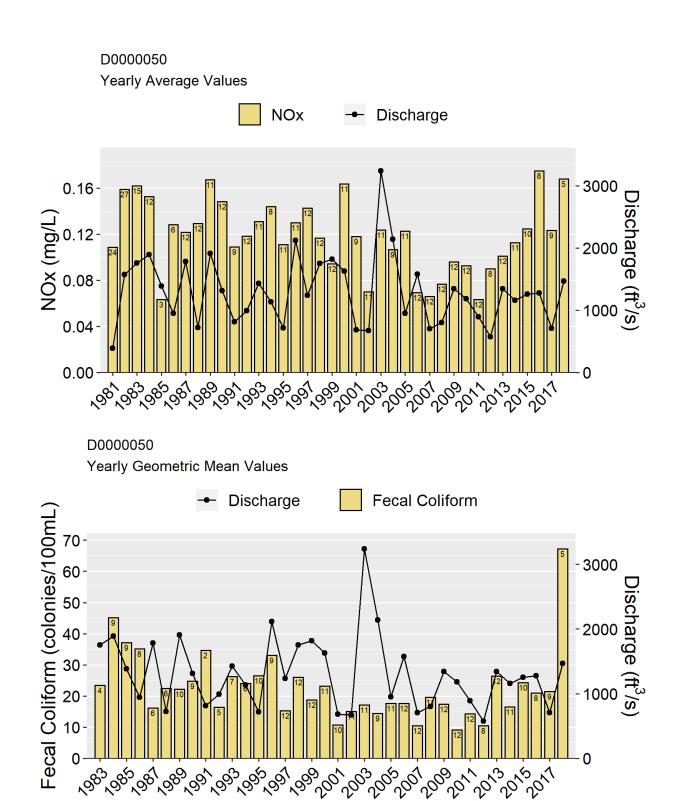
Temperature

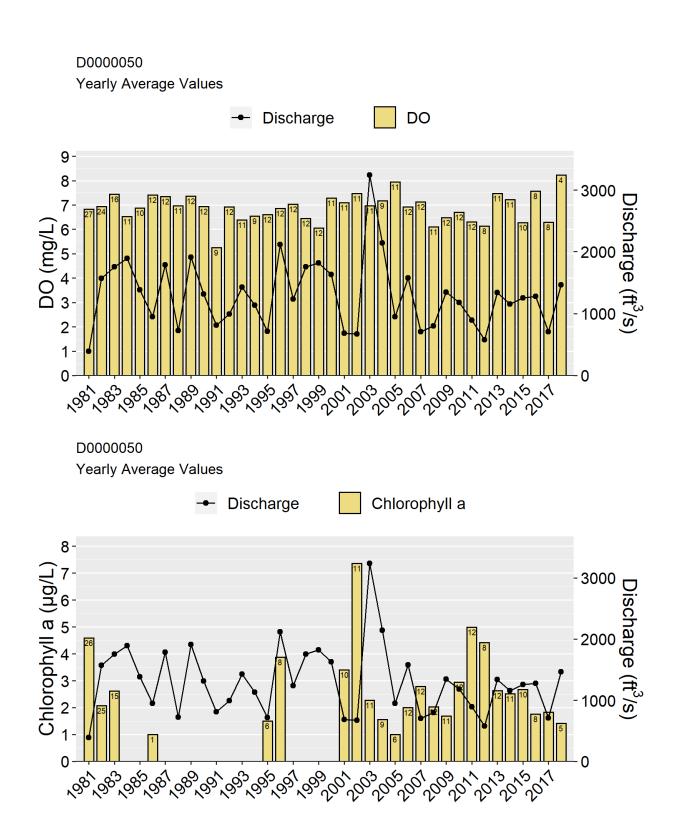
D0000050
Yearly Average Values

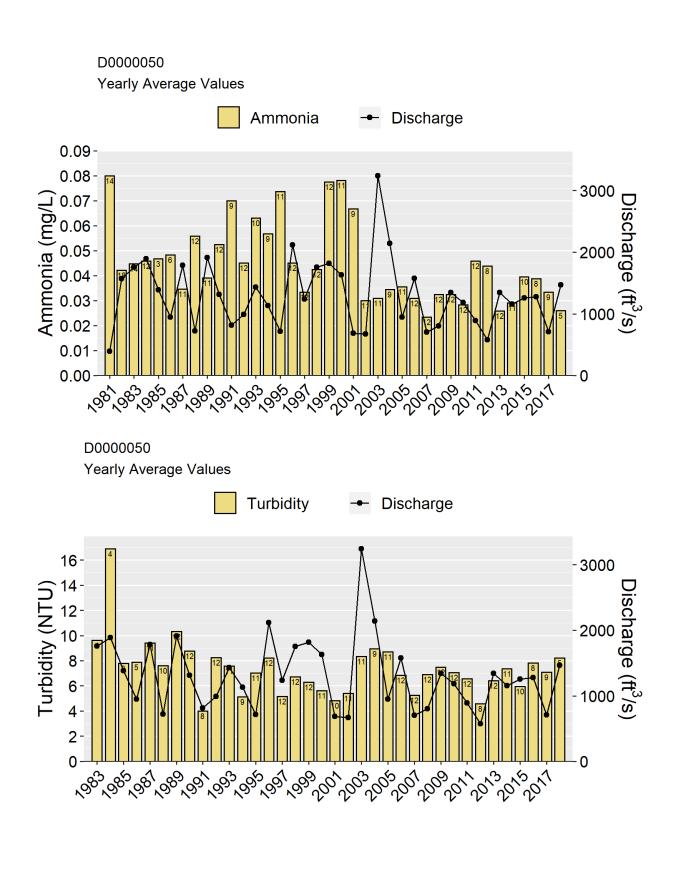
Temperature (°C)



D0000050 Yearly Average Values Phosphorus Discharge 0.12 Phosphorus (mg/L) -3000 🗖 0.08 -2000 0.04 1000 🕏 0.00 D0000050 Yearly Median Values рΗ Discharge 3000 ('n's) Hd 2000 2 1

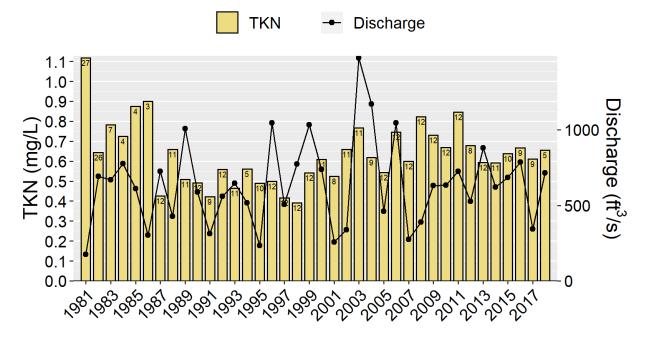




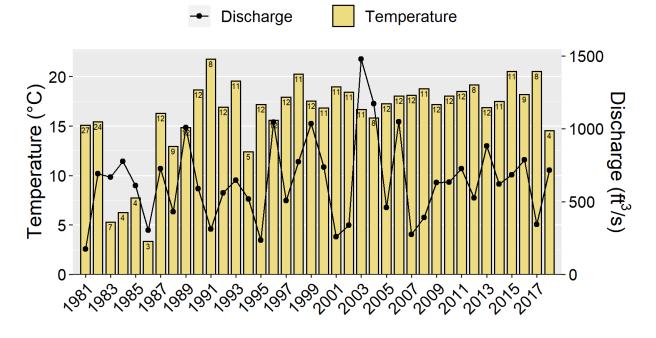


BLACKWATER RIVER .5 MI UPS MOUTH NEAR WYANOKE Ambient Monitoring Station Water Quality Data with the Number of Samples Collected inside the Bar, Annual Weighted Means, and Annual Median values with the Backwater River Discharge (USGS Gage: 02049500).

D0001800 Yearly Average Values

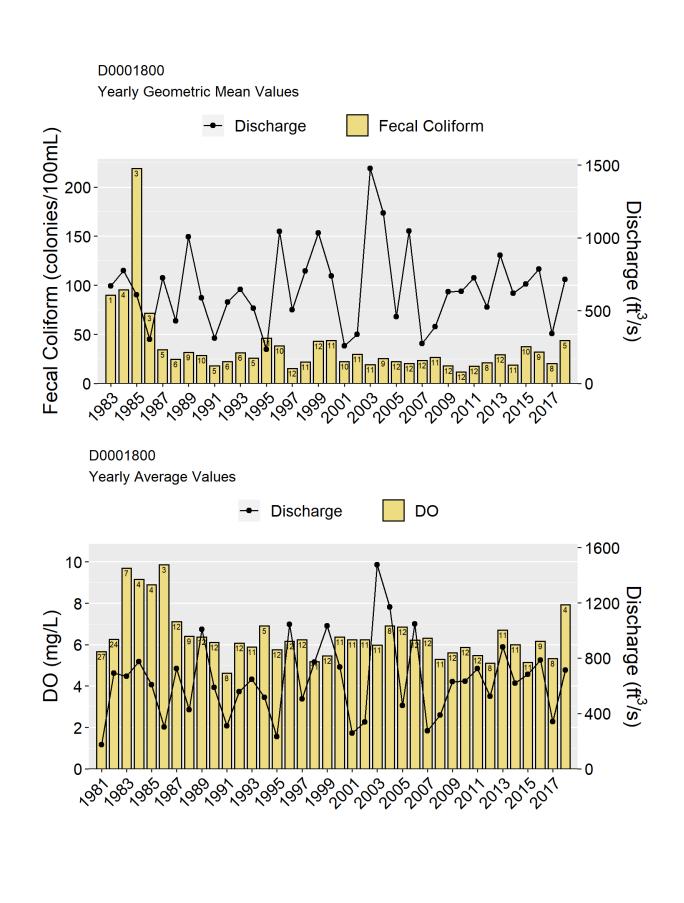




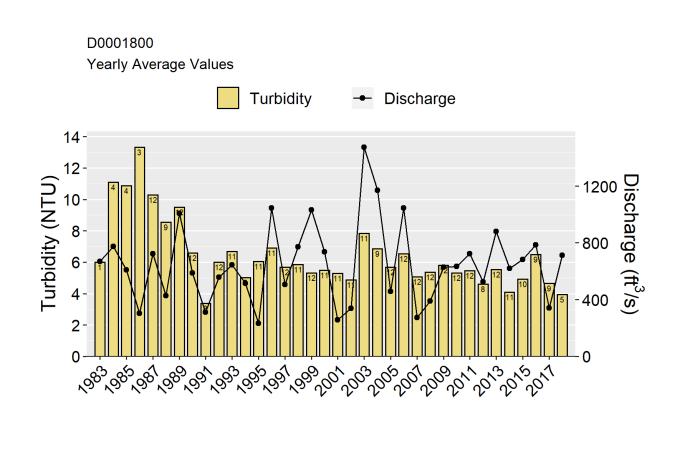


D0001800 Yearly Average Values Specific conductance Discharge Specific conductance (µS/cm) - 1500 350-300-Discharge (ft³/s) 250-200-150⁻ 100-50 D0001800 Yearly Average Values Phosphorus Discharge 0.28-O.24 0.20 0.16 0.12 0.08 0.04 Discharge (ft³/s) 800 400 0.16 0.00

D0001800 Yearly Median Values рΗ Discharge 8-- 1600 7-Discharge (ft³/s) -800 -400 (n.s) Hd 2 1 D0001800 Yearly Average Values NOx Discharge - 1500 0.4-Discharge (ft³/s) (J/0.3 NOX (mg/L) 0.2 0.1 0.0

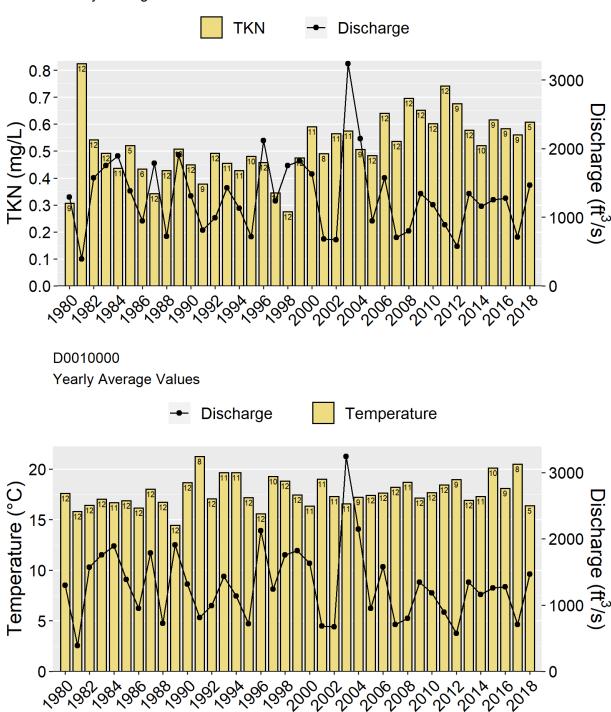


D0001800 Yearly Average Values Chlorophyll a Discharge Discharge (ft³/s) -800 -800 400 Chlorophyll a (µg/L 09876543210 D0001800 Yearly Average Values Ammonia Discharge - 1500 0.5-Ammonia (mg/L) 1.0 0.0 8.0 1.0 0.0 - 1000 0.3 0.0



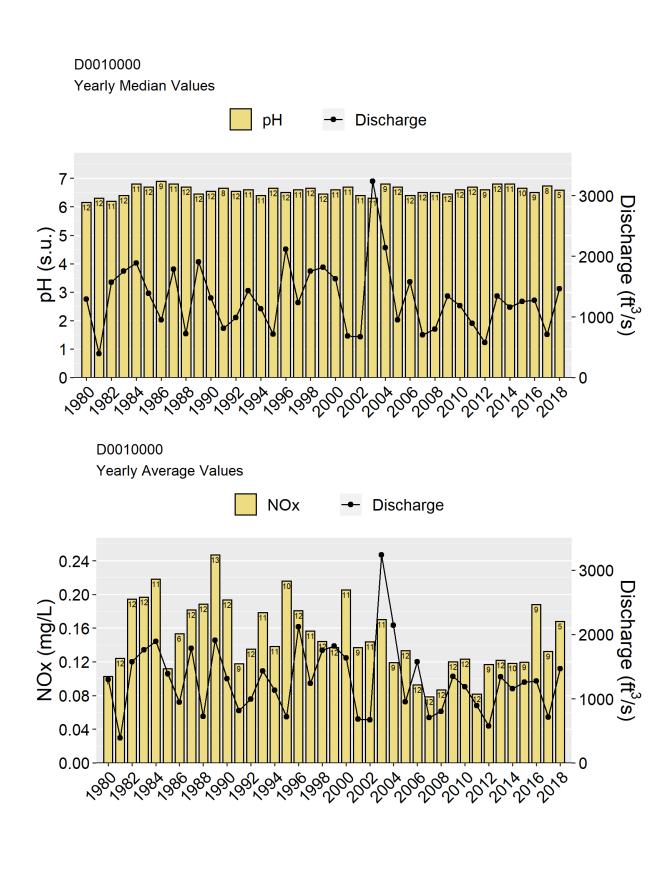
CHOWAN RIVER NEAR RIDDICKSVILLE Ambient Monitoring Station Water Quality Data with the Number of Samples Collected inside the Bar, Annual Weighted Means, and Annual Median values with the Nottoway River Discharge (USGS Gage: 02047000).

D0010000 Yearly Average Values



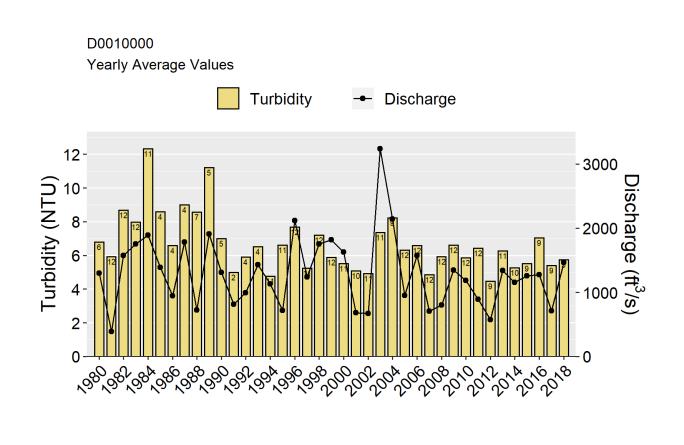
Yearly Average Values Specific conductance Discharge Specific conductance (µS/cm) -3000 -2000 1000 D0010000 Yearly Average Values **Phosphorus** Discharge O.20-0.16-0.12-0.08-0.04-0.20--3000 harge (i -2000 0.00

D0010000



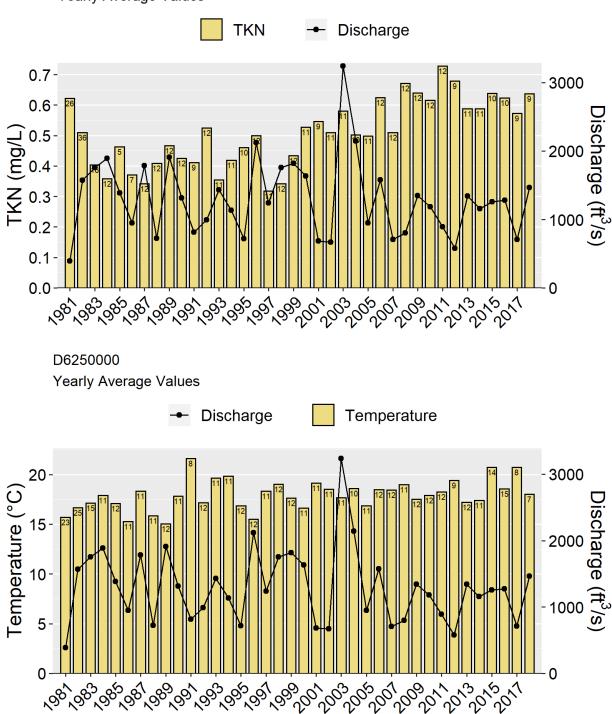
D0010000 Yearly Geometric Mean Values Fecal Coliform Discharge Fecal Coliform (colonies/100mL) 120 - 3000 100-80-2000 60-40-20-D0010000 Yearly Average Values DO Discharge 8-3000 2000 1000 👸 2 1

D0010000 Yearly Average Values Chlorophyll a Discharge -3000 Chlorophyll a (µg// 121 109 87 65 43 21 Jischarge (ft³/s) D0010000 Yearly Average Values Ammonia Discharge 0.32--3000 0.28-)ischarge (ft³/s) 0.04-0.00

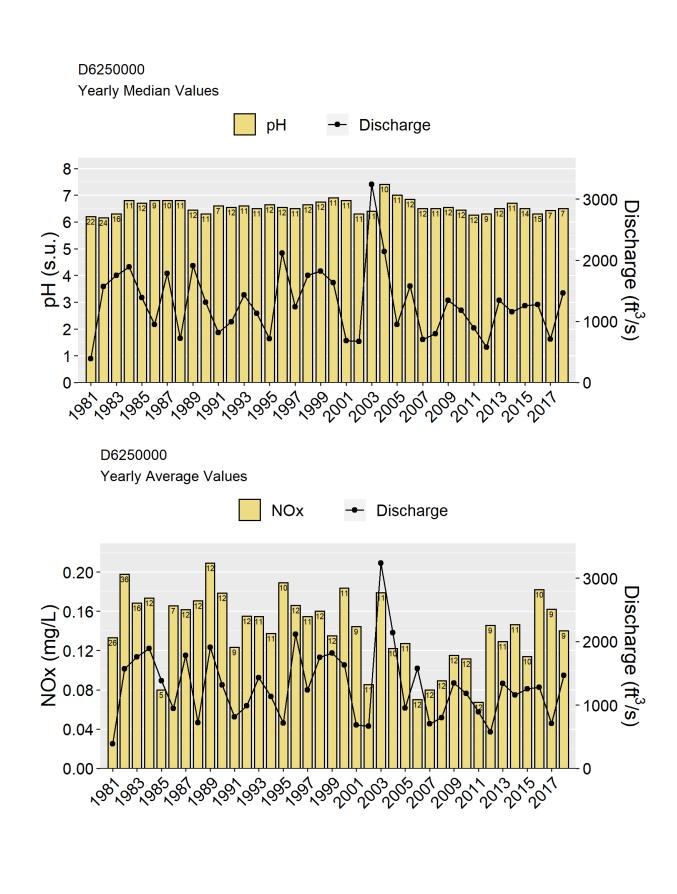


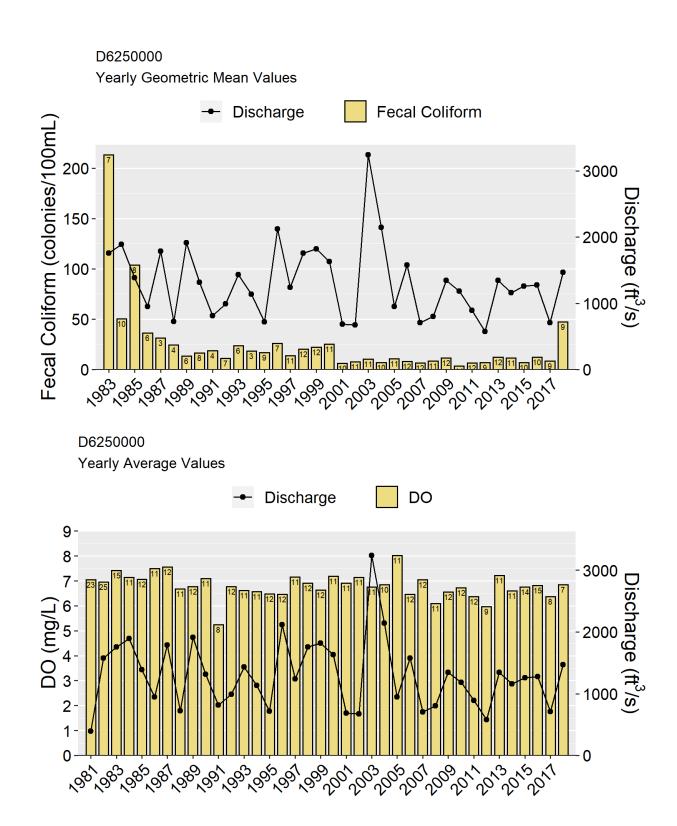
CHOWAN RIVER AT US 13 AT WINTON Ambient Monitoring Station Water Quality Data with the Number of Samples Collected inside the Bar, Annual Weighted Means, and Annual Median values with the Nottoway River Discharge (USGS Gage: 02047000).

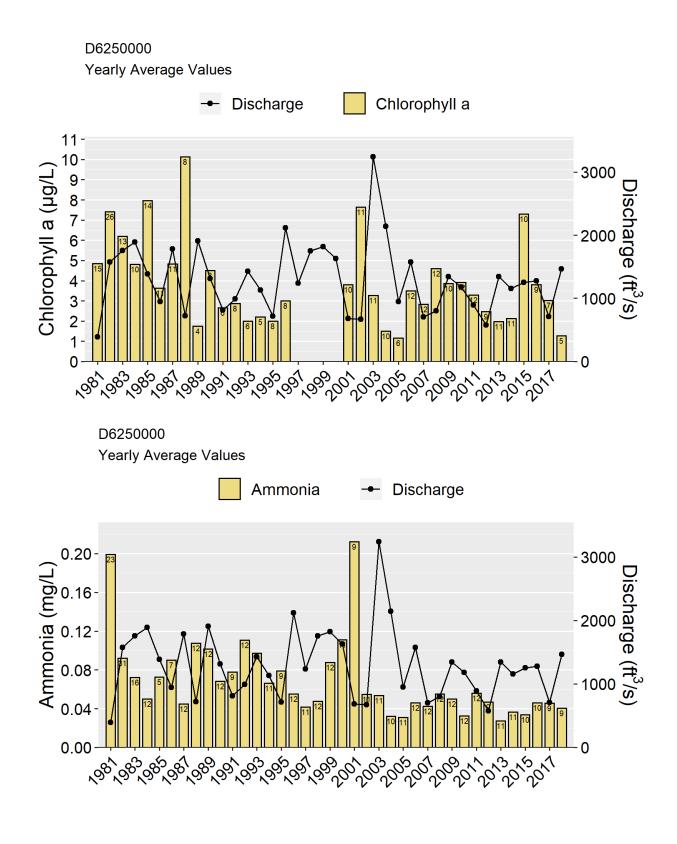
D6250000 Yearly Average Values

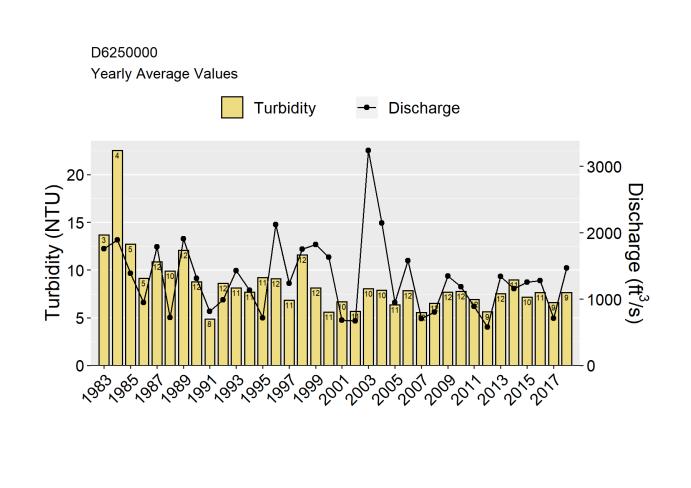


D6250000 Yearly Average Values Specific conductance Discharge Specific conductance (µS/cm) 400 200 100 0 - 3000 -2000 D6250000 Yearly Average Values **Phosphorus** Discharge Phosphorus (mg/L) 0.12-- 3000 80.0 -2000 1000 👸 0.04 0.00



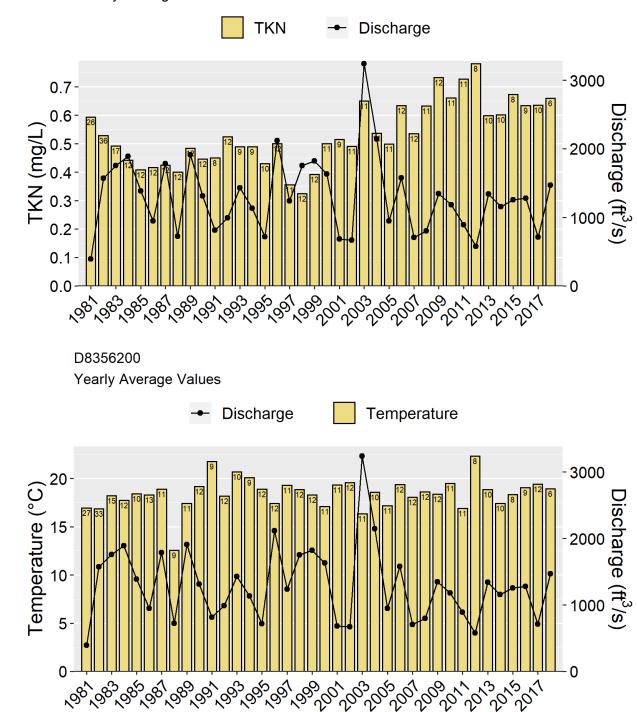






CHOWAN RIVER AT CHANNEL MARKER 16 NEAR GATESVILLE Ambient Monitoring Station Water Quality Data with the Number of Samples Collected inside the Bar, Annual Weighted Means, and Annual Median values with the Nottoway River Discharge (USGS Gage: 02047000).

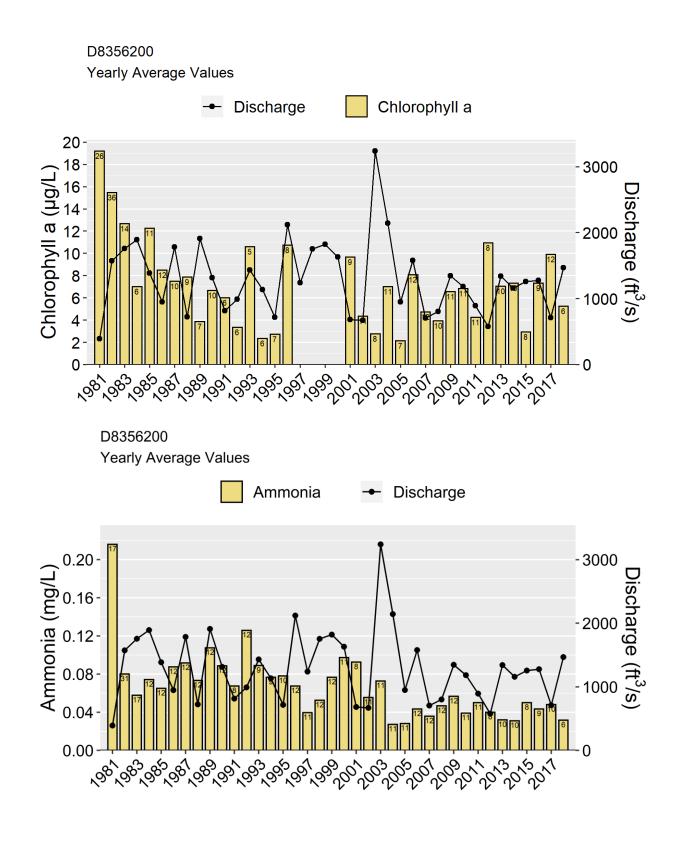
D8356200 Yearly Average Values

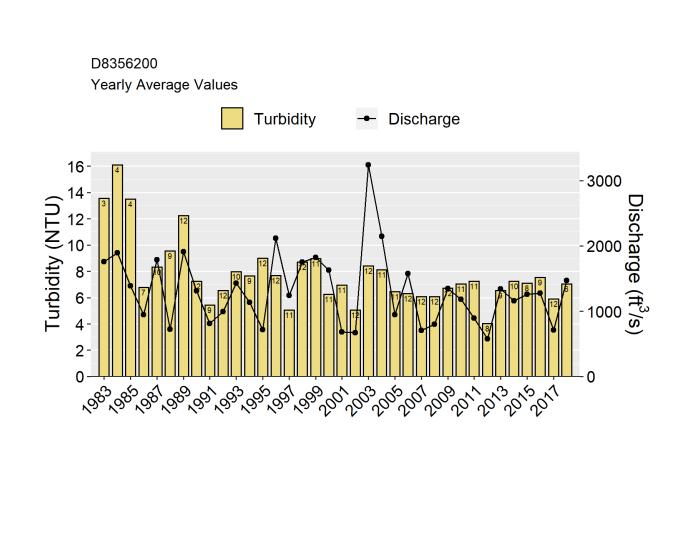


D8356200 Yearly Average Values Specific conductance Discharge Specific conductance (µS/cm) 1200 -1100 -1000 -- 3000 900-800-2000 700-600-500 400 300 200 100 D8356200 Yearly Average Values **Phosphorus** Discharge 0.12-Phosphorus (mg/L) - 3000 0.08 2000 0.04 0.00

D8356200 Yearly Median Values рΗ Discharge 8-7-3000 □ ('n's) Hd 2000 - 1000 😽 2 D8356200 Yearly Average Values NOx Discharge 0.24 - 3000 0.20-(J/gm) xON 0.12-XON 0.08-:harge (-2000 - 1000 **ft**3 0.04 0.00

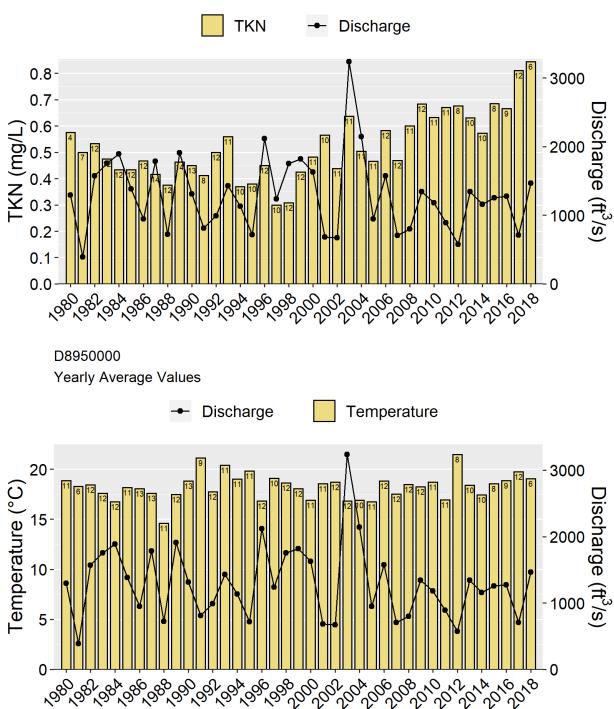
D8356200 Yearly Geometric Mean Values Fecal Coliform Discharge Fecal Coliform (colonies/100mL) 60 - 3000 50 00 (ft³/s) 40 30 20 10 D8356200 Yearly Average Values Discharge DO 9 3000 8 (T/6m) OQ 2000 1000 5 2 1

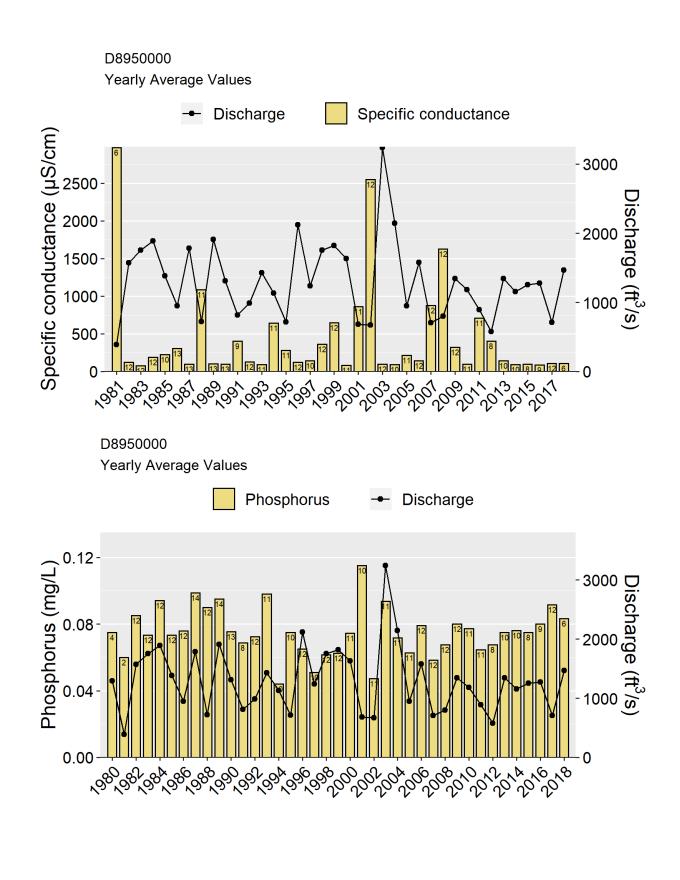


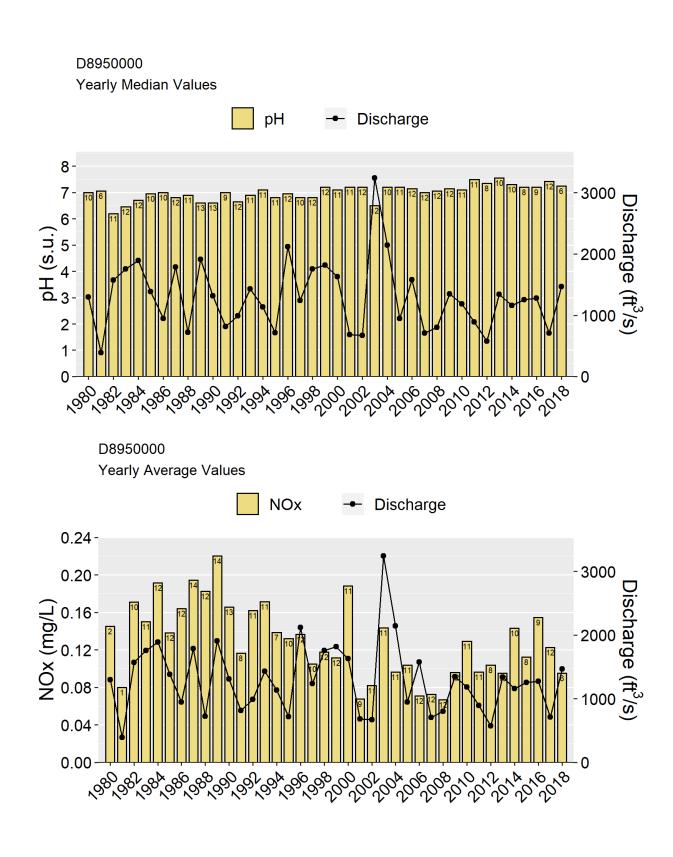


CHOWAN RIVER AT CHANNEL MARKER 7 AT COLERAIN Ambient Monitoring Station Water Quality Data with the Number of Samples Collected inside the Bar, Annual Weighted Means, and Annual Median values with the Nottoway River Discharge (USGS Gage: 02047000).

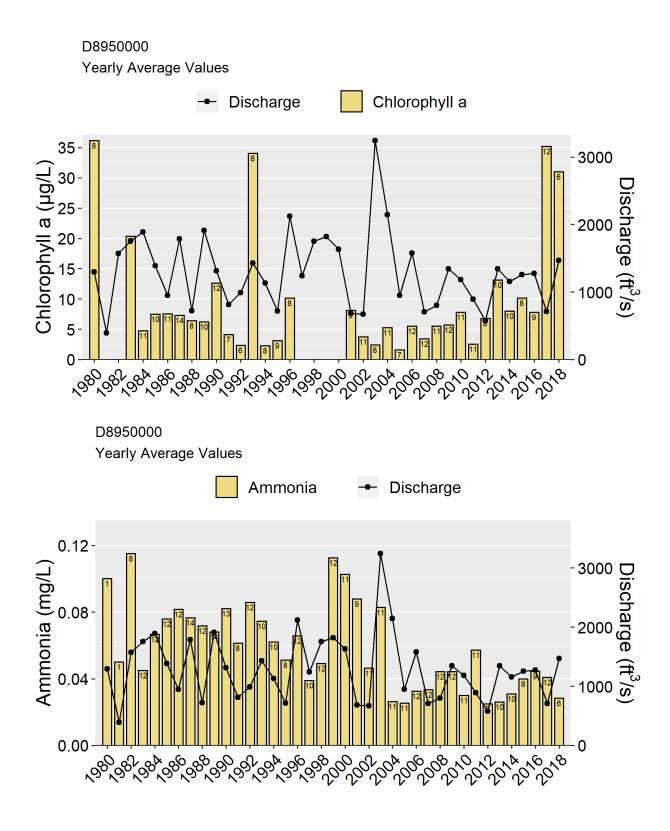


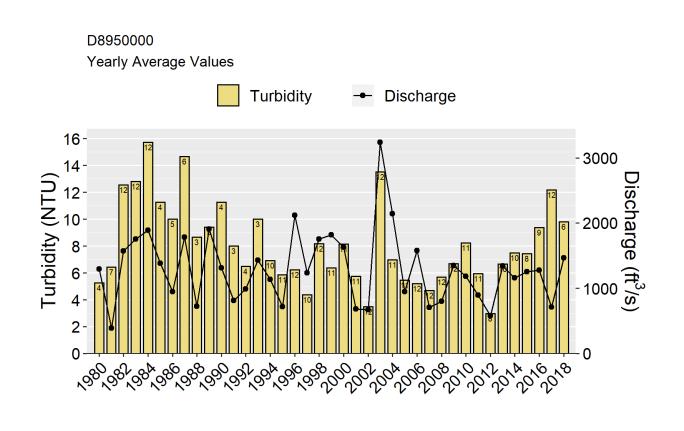






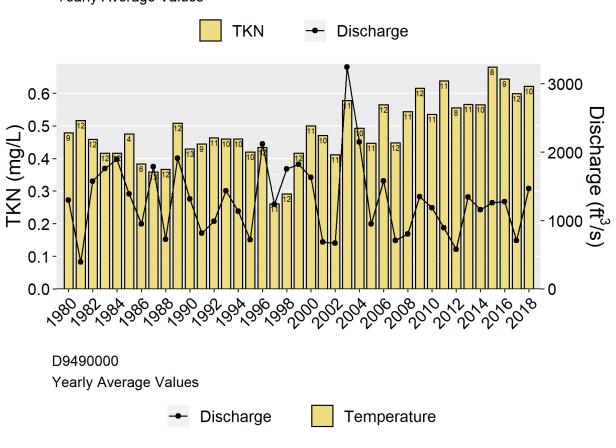
D8950000 Yearly Geometric Mean Values Fecal Coliform Discharge Fecal Coliform (colonies/100mL) 60-- 3000 50 00 (ft³/s) 40 30 20 10 D8950000 Yearly Average Values Discharge DO 10-- 3000 8 DO (mg/L) -2000 6 4 1000 🕏 2

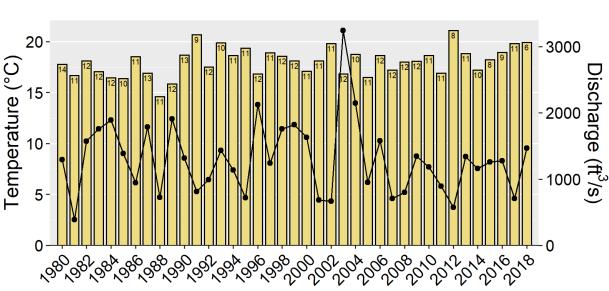




CHOWAN RIVER AT US 17 AT EDENHOUSE Ambient Monitoring Station Water Quality Data with the Number of Samples Collected inside the Bar, Annual Weighted Means, and Annual Median values with the Nottoway River Discharge (USGS Gage: 02047000).

D9490000 Yearly Average Values





D9490000 Yearly Average Values Specific conductance Discharge Specific conductance (µS/cm) 4500 - 3000 4000 3500 3000--2000 2500-2000-1500 1000 500 D9490000 Yearly Average Values **Phosphorus** Discharge 0.11-0.10 -- 3000 0.09-0.08-0.07harge 0.06 -0.05 0.04 1000 0.03 0.02 0.01 0.00

